



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: RIESS et al

Group Art Unit: Not assigned

Application No.: Not assigned

Examiner: Not assigned

Filed: July 9, 2001

For: FAST, BLIND EQUALIZATION TECHNIQUES USING RELIABLE SYMBOLS

INFORMATION DISCLOSURE STATEMENT

Director of the U.S. Patent and Trademark Office  
Washington, D.C. 20231

Sir:

Pursuant to 37 CFR § 1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom. The paragraphs marked below are applicable.

- ☒ 1. This Information Disclosure Statement is being filed (a) within three months of the U.S. filing date or the date of filing a CPA, OR (b) before the mailing date of a first Office Action on the merits in the present application. No certification or fee is required.
- ☐ 2. This Information Disclosure Statement is being filed with a Request for Continued Examination (RCE). No certification or fee is required.
- ☐ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.
- ☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).

- ☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).
- ☐ c. Please debit Deposit Account No. 11-0600 in the amount of \$240.00 in payment of the fee under 37 CFR §1.17(p) to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached.
- ☐ 4. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Applicant(s) hereby petition(s) that the Information Disclosure Statement be considered. Please debit Deposit Account No. 11-0600 in the amount of \$130.00 in payment of the petition fee under 37 CFR §1.17(i)(1) to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached.
- ☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).
- ☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).

OPTIONAL INSERT PARAGRAPHS FOR INFORMATION DISCLOSURE  
STATEMENT (Please delete non-applicable paragraphs).

- ☐ 5. Relevance of the non-English language reference(s) is discussed in the present specification.
- ☐ 6. The reference(s) was/were cited in a counterpart foreign application. An English language version of the foreign search report is attached for the Examiner's information.
- ☐ 7. A concise explanation of the relevance of the non-English language reference(s) appears in the Appendix attached hereto.
- ☐ 8. The Examiner's attention is directed to co-pending U.S. Patent Application No. \_\_\_\_\_, filed, which is directed to related technical subject matter. The identification of this U.S. Patent Application is not to be construed as a waiver of

secretcy as to that application now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited application and the art cited therein during examination of the present application.

☐ 9. This application is one of a series of related applications, identified in the attached Appendix, which are directed to related technical subject matter. The identification of those U.S. Patent Applications is not to be construed as a waiver of secretcy as to those applications now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited applications and the art cited therein during the examination.

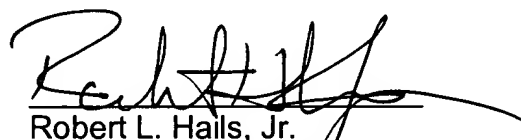
☐ 10. The reference(s) was/were cited by or submitted to the Office in parent application No. \_\_\_\_\_, filed \_\_\_\_\_, which is relied upon for an earlier filing date under 35 U.S.C. §120. Thus, copies of these references are not attached. 37 CFR §1.98(d).

☐ 11. English-language Abstracts of the non-English language references are attached hereto.

☐ 12. Other.

Respectfully submitted,

KENYON & KENYON

  
Robert L. Halls, Jr.  
Registration No. 39,702

Date: July 9, 2001

Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

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Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

### Complete if Known

Application Number	Not assigned
Filing Date	July 9, 2001
First Named Inventor	RIESS et al
Group Art Unit	Not assigned
Examiner Name	Not assigned
Attorney Docket Number	11927/46101

09/899843



### U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	
		Number	Kind Code <sup>2</sup> (if known)			
		4,847,797		PICCHI et al	7/11/89	
		5,214,675		MUELLER et al	5/25/93	
		5,444,712		BETTS et al	8/22/95	
		5,533,050		ISARD et al	7/2/96	
		5,541,964		COHEN et al	7/30/96	
		5,550,924		HELF et al	8/27/96	
		5,694,423		LARSSON et al	12/2/97	
		5,793,807		WERNER et al	8/11/98	
		5,809,074		WERNER et al	9/15/98	
		5,825,832		BENEDETTO	10/20/98	
		5,835,731		WERNER et al	11/10/98	
		5,867,539		KOSLOV	2/2/99	
		5,940,440		WERNER et al	8/17/99	

### FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sub>6</sub>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				

Examiner  
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	Not assigned
				Filing Date	July 9, 2001
				First Named Inventor	RIESS et al
				Group Art Unit	Not assigned
				Examiner Name	Not assigned
Sheet	2	of	2	Attorney Docket Number	11927/46101

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Kwon et al, "A Blind Equalization with the Variable Decision Region", <i>Pers. Indoor and Mobile R. Comm.</i> , vol. 2, pp 322-326 (Sept. 1997)	
		Lee et al, "A Decision-Directed Blind Equalization with the Error Variance Estimation", vol. 1, pp 99-103, <i>IEEE</i> , (Oct. 1997)	
		Lee et al, "Convergence Analysis of the Stop-and-Go Blind Equalization Algorithm", <i>IEEE Trans. Comm.</i> , vol. 47, no. 2, pp 177-180, (Feb. 1999)	
		Xu et al, "An Improved Decision-Directed Equalization Algorithm for MQAM Modulation", <i>Chinese Journal of Electronics</i> , vol. 9, pp 45-51 (1997)	
		Xu et al, "New Decision-Directed Equalization Algorithm for QAM Communication Systems", <i>IEEE Global Telecommunications Conference 1996</i> , vol. 2, pp 1330-1334, (1996)	
		Werner et al, "Blind Equalization for Broadband Access", <i>IEEE Comm.</i> , vol. 37, no. 4, pp 87-93, (April 1999)	
		Lee et al, "Joint Blind Equalization with a Shell Partition-Based CMA for QAM Signal Constellations", <i>IEEE Int'l. Conference on Acoustics, Speech, and Signal Processing</i> , IEEE Computer Society Press, pp 2513-2516, (April 21-24, 1997)	
		Tseng et al, "A Stop-and-Go Dual-Mode Algorithm for Blind Equalization", <i>Globecom 96</i> , vol. 2, pp 1427-1431, (November 18-22, 1996)	
		Garth et al, "Blind Equalization Algorithms with Automatic Constellation Phase Recovery for Dual-Mode CAP-QAM Reception", 1999 <i>IEEE Int'l. Conference on Communications</i> , vol. 3, pp 1531-1536, (June 6-10, 1999)	
		Axford et al, "A Dual-Mode Algorithm for Blind Equalization of QAM Signals: CADAMA", 29th <i>Asilomar Conference on Signals, Systems &amp; Computers</i> , vol. 1, pp 172-176, (October 30 - November 1, 1995)	
		Weerackody et al, "Dual-Mode Type Algorithms for Blind Equalization", <i>IEEE Transactions on Communications</i> , Vol. 42, no. 1, pp 22-28, (January 1994)	

Examiner Signature		Date Considered	
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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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